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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,994	10/11/2001	John Cairney	GTRC156	5951
6980	7590	05/19/2005		
TROUTMAN SANDERS LLP			EXAMINER	
BANK OF AMERICA PLAZA, SUITE 5200			LY, CHEYNE D	
600 PEACHTREE STREET, NE				
ATLANTA, GA 30308-2216			ART UNIT	PAPER NUMBER
			1631	

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/973,994	CAIRNEY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Cheyne D. Ly	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 14 January 2005.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-4 and 7-61 is/are pending in the application.
- 4a) Of the above claim(s) 1,7 and 10-61 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 2-4,8 and 9 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) 1-4 and 7-61 are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input checked="" type="checkbox"/> Other: <u>NCBI printouts</u> .       |

**DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 14, 2005 has been entered.
2. The Species Election Requirement directed to the method for expression determination, mailed May 02, 2003, has been withdrawn.
3. Claims 2-4, 8, and 9, SEQ ID NOs. 79 and 131, high stringency condition, are examined on the merits.

**FORMAL MATTERS**

4. The request to change the docket number and change in correspondence address has been entered. The notice of acceptance of power of attorney has been mailed on February 09, 2005.

**CLAIM REJECTIONS - 35 U.S.C. § 112, SECOND PARAGRAPH**

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 2-4, 8, and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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7. Specific to claim 2, a), the limitation of “under high stringency conditions” causes claim 2 to be vague and indefinite because the specification does not specifically define the metes and bounds of said limitation. For example, the specification, pages 20-21, discloses “at higher stringency (e.g. higher temperature or lower salt) successful hybridization requires fewer mismatches.” Further, Applicant discloses on page 22, an example of high stringency as defined by specific wash conditions, but not the actual “high stringency conditions.” The specification does not make clear whether “high stringency conditions” is due to higher temperature or lower salt. Clarification of the metes and bounds is required. Claims 3, 4, 8, and 9 are rejected for being dependent from claim 2.

#### **REJECTION UNDER 35 U.S.C. § 112, FIRST PARAGRAPH**

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

#### **LACK OF WRITTEN DESCRIPTION**

9. Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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10. It is noted that Applicant discloses the detection of gene expression by microarray assay wherein cDNA array is exposed to cDNA probes made from mRNA (page 72-75). While, the claim invention recites the limitation of "RNA transcript is capable of hybridizing to the cDNA sequence" which has been reasonably construed as a directed hybridization between said transcript and cDNA. Therefore, the specification does not provide written description basis for the claimed method for staging conifer embryos by detecting RNA transcripts capable of hybridizing to the cDNA via a DNA array.

#### **CLAIM REJECTIONS - 35 USC § 102**

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 2-3 and 8 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Dong et al. (March 1999).

13. Dong et al. (1999) cites Dong et al. (1996) (page 860, column 2) for describing the hybridization conditions used by Dong et al. (1999) in Northern blot hybridization assays. Due to the vague and indefinite issue directed to the limitation of "under high stringency conditions," the hybridization conditions described by Dong et al. (1996) on page 461, column 1, represents a "high stringency condition."

14. Dong et al. discloses a method for characterizing of at least two embryogenesis-associated cDNAs from somatic embryos of *Picea glauca* (conifer) and their comparative expression during zygotic embryogenesis (Abstract etc.). The method of Dong et al. comprises detecting expression in a conifer embryo at least two RNA transcripts via Northern blot analysis (Figures 1 and 2). Dong et al. describes sequences corresponding to the *Picea glauca* mRNA (L47115 and L47116) (page 859, column 1, foot note section, and NCBI sequence printout). The sequences described by Dong et al. has been reasonably construed with scientific reasoning to be “capable of hybridizing to the cDNA sequence of SEQ ID NO:79” at position “tttta”. Dong et al. describes the correlation of the expression of the transcripts with stages 1-3 (page 860, column 2, Developmental expression of cDNAs in somatic embryos section), as in instant claims 2-3 and 8.

## **CONCLUSION**

15. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547. The USPTO's official fax number is (571) 273-8300.

16. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the

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problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

17. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel, Ph.D., can be reached on (571)272-0718.

C. Dune Ly / *cde*  
5/12/05

*Ardin H. Marschel* 5/15/05  
ARDIN H. MARSCHEL  
PRIMARY EXAMINER